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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,092	03/23/2004	Yasuyuki Nakamura	3274-040239	2540

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EXAMINER	
CORDRAY, DENNIS R	

ART UNIT	PAPER NUMBER
1731	

DATE MAILED: 06/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/807,092	NAKAMURA ET AL.	
	Examiner	Art Unit	
	Dennis Cordray	1731	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Howland et al (WO 01/59213 A1).

Howland et al discloses a papermaking additive composition and a method for making paper using the additive (p 1, par 1). The composition comprises an amide compound obtained by reacting one or more fatty acids and one or more polyamine of the formula

$H_2N\text{-}(R_1NH)_n\text{-}H$

wherein R_1 is C_2-C_4 alkylene and n is 2, 3, 4 or 5 (Abstract). Howland et al also discloses that the above reaction is conducted at a temperature from about 300 °F to about 350 °F (149°C to 177°C) until water evolution ceases (i.e. – to completion) (p5, last par). Several examples of preferred polyamines and fatty acids are given (p7, 4th and 5th full pars) that are also recited in the instant specification (p 8 and Table 1, pp 25-26). The preferred polyamines include diethylenetriamine, triethylenetertamine and tetraethylenepentamine, which are used in the Examples listed in Table 1 on p 25 of the instant Specification. The preferred fatty acids include behenic, stearic, myristic and oleic acid, which are in the examples listed on p 8, last paragraph of the instant

Specification as examples of suitable acids. Oleic acid is an unsaturated acid, thus the product can contain unsaturated groups. Howland et al further discloses the preferred product has the formula

$R_3NH\text{-}(R_1NR_4)_n\text{-}R_5$

wherein n and R_1 are as above, R_3, R_4 and R_5 are each either H or $R_2C(O)$- (where at least one of R_3, R_4 and R_5 is $R_2C(O)$- and at least one is H), and R_2 is the hydrocarbon sidechain of a saturated or unsaturated fatty acid and contains 13-22 carbon atoms (p7, 1st and 3rd full pars). If n is 2, R_3 is H and R_4 and R_5 are $R_2C(O)$-, then the ratio of tertiary amine to total amine is 0.67; if n is 3, the ratio becomes 0.75. The ratios lie within and thus anticipate the claimed range.

Howland et al discloses that the additive dispersion is added to the to the pulp slurry (p3, 2nd full par) in an amount of 0.1 to 10 lb/ton (or 0.005 to 0.5 pts per 100 pts pulp) (p 8, 2nd full par). The disclosed concentration of additive dispersion to pulp slurry overlaps and thus anticipates the claimed range. Howland also discloses that the additives are used with one or more retention and drainage aids or flocculants, which include acrylamide copolymers (p9, 1st and last full pars and the par bridging pp 8 and 9). The listed examples include copolymers of acrylamide with dimethylaminoethyl (meth)acrylate, diallyldimethylammonium chloride, and acrylic acid, which are listed in the instant Specification (p 16, last par) as suitable acrylamide copolymers.

The composition disclosed by Howland et al, when added to the suspension, is capable of functioning as a softening agent because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or composition, a

prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 7-9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinson et al (6162329) in view of Dwiggins et al (6033523) and further in view of Kazuyoshi Asakura et al (JP 2002-275786 A, translation enclosed).

Vinson et al discloses a softening agent for tissue comprising quaternary compounds of the formula

$(R_1)_{4-m}$-N^+-$(R_2)_mX^-$

wherein m is 1-3; R1 is a C_1-C_6 alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxylated group or benzyl group; R2 is a C_{14}-C_{22} alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxylated group or benzyl group; and X is an anion (Abstract; col 10, lines 58-67 and col 11, lines 1-4).

Preferred variants of the quaternary compound have the formula

$(R_1)_{4-m}$-N^+-$(CH_2$-Y-$R_3)_mX^-$

wherein Y can be –O– (O)C– or –C(O) –O–; R1 is a C_{13}-C_{21} alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxylated group or benzyl group; R1 is a C_1-C_6 alkyl group, hydroxyalkyl group, hydrocarbyl group, alkoxylated group or benzyl group; and X is an anion (col 11, lines 36-54).

The various combinations encompass the claimed formulae (2) and (3).

Vinson et al also discloses that wet strength agents such as polyacrylamides can be used in the papermaking process (col 9, lines 35-36).

Vinson et al discloses that the total weight of softening composition added is from 0.1 to 10% of the total weight of the product (col 4, lines 36-39). Vinson et al discloses a method for producing the tissue comprising adding the composition to a partially dried web (col 4, lines 56-58).

Vinson et al discloses that the tissues can be made using recycled paper (col 8, lines 59-63).

Vinson et al does not disclose adding the softening composition to the furnish. Vinson et al also does not disclose the amount of polyacrylamide used. Vinson et al further does not disclose the use of the claimed amide compound.

Dwiggins et al discloses a soft, bulky tissue comprising at least about 3 lb/ton (0.15 pts/100 pts tissue) of a temporary wet strength agent and up to 10 lb/ton (0.5 pts/100 pts tissue) of a nitrogen containing softener (col 4, lines 22-32). The temporary wet strength agent includes acrylamides (col 7, lines 36-44). Dwiggins et al discloses that one or more softeners are used in the papermaking process, including trivalent and

tetravalent cationic organic nitrogen compounds incorporating long fatty acid chains, such as quaternary ammonium salts and amine amides (col 9, lines 59-67). Dwiggins et al also teaches that commercially available softeners generally used are complex mixtures rather than a single agent (col 10, lines 12-16), thus the use of multiple additives is well known. Dwiggins et al further discloses that softeners can be added to the furnish or to the completely dried sheet (col 10, lines 17-24). The tissues can be made using recycled paper (col 6, lines 60-63).

Dwiggins et al does not disclose the specific amine amide compounds.

Kazuyoshi Asakura et al discloses an additive for making paper using recycled paper that improves the bulkiness and oil absorption of the paper (p 4/28, Subject of the Invention). The paper can be a cleansing paper (tissue) that absorbs oil from a human body (par bridging pp 8/28 to 9/28). The additive is an amide compound made from the reaction of fatty acids having from 10 to 24 carbon atoms and a polyamine compound of the formula

$R^3HN\text{-}(R^2NH)_n\text{-}\ R^2NHR^4$

wherein R^2 is a C_1-C_4 alkylene group, R^3 and R^4 are H or C_1 to C_3 alkyl and n is 1-3. The ratio of reacted fatty acid to polyamine is from 1.5 to 3.3 (p 5/28, Claim 1). The product of the reaction can have a tertiary amine to total amine ratio of greater than 0.6 (for instance, if n=1, and the middle amine and two hydrogen atoms on one end amine are substituted with acyl groups, the ratio of tertiary amine to total amine is 0.66). The fatty acids are 20 to 100% unsaturated (p 5/28, Claim 2).

Kazuyoshi Asakura et al discloses a method of making paper wherein the additive is added to the pulp in an amount from 0.03 to 8% by weight (0.03 to 8 pts/100 pts pulp) (p 6/28, Claim 3). Acrylamides can also be added as dispersants in an amount from 0.05 to 20 wt % (0.05 to 20 pts/100 pts pulp) (par bridging pp 15/28 to 16/28).

The art of Vinson et al, Dwiggins et al, Kazuyoshi Asakura et al and the instant application are analogous as they pertain to softening and bulking compositions for paper products. Dwiggins et al teaches that softening compositions for tissues commonly include multiple softening/bulking agents and that such agents include quaternary amines and amine amides. Vinson et al discloses the claimed quaternary softening agents and Kazuyoshi Asakura et al teaches that the claimed amide compound enhances bulk and oil absorbency. All three references disclose adding acrylamide for either wet strength or as a dispersant. Vinson et al discloses addition of the quaternary compound in amounts of 0.1 to 10 parts/100 parts tissue product. Kazuyoshi Asakura et al discloses addition of the amide compound in amounts of 0.03 to 8 pts/100 pts pulp. Assuming the tissue product weight to be similar to the pulp weight (on a dry basis), the ratio of amide compound to quaternary compound can range from 1/333 to 80/1. Dwiggins and Kazuyoshi Asakura et al disclose addition of polyacrylamide in amounts from 0.05 to 20 pts/100 pts pulp. The ratio of amide compound to polyacrylamide ranges from 1/667 to 160/1. The amounts of addition of the quaternary compounds, the acrylamide and the amide compound, either singly or in

combination significantly overlap the claimed addition amounts. It would have been obvious to a person of ordinary skill in the art at the time of the invention to add the claimed amide compound to the tissue of Vinson et al in view of Dwiggins et al and further in view of Kazuyoshi Asakura et al to enhance the bulkiness and oil absorption properties of the tissue.

Response to Arguments

Applicant's arguments filed 5/12/2006 have been fully considered and are persuasive in part due to the amendments to the claims. Applicant argues correctly (p 8, last par) that none of the references suggest producing a soft paper using the claimed amide compound. The rejection of claims under 35 U.S.C. 103(a) has been withdrawn. However, a new ground(s) of rejection is made as detailed above.

Applicant argues that the specific amide compound claimed in newly presented Claim 14 is distinct from the amide compounds disclosed in Howland et al. As detailed in the rejections above, Howland et al discloses the reaction of the same polyamines (diethylenetriamine, triethylenetertamine and tetraethylenepentamine) used in the examples in the instant Disclosure (see Table 1, p 25) with the same acids (stearic, oleic). Howland et al specifies products that can have the tertiary amine to total amine ratios in the claimed range. The claimed amide compound is not distinct, but is specifically disclosed in the embodiments of Howland et al. Although not specifically directed to soft paper, the composition disclosed by Howland et al, when added to the suspension, is capable of functioning as a softening agent because, where the claimed and prior art apparatus or product are identical or substantially identical in structure or

composition, a *prima facie* case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). In other words, when the structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed to be inherent.

In addition, the new rejections necessitated by the amendments to the claims that specify a soft paper also disclose the claimed amide compound.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Cordray whose telephone number is 571-272-8244. The examiner can normally be reached on M - F, 7:30 -4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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